Citation Patterns and Research Impact of Open Access Journals in Social Sciences: A Bibliometric Study

Smt.Neha Dubey

Librarian, Government Autonomous Girls PG College of Excellence, Sagar 470001.

Abstract

Though slow to catch up, social sciences have seen shifts in how findings spread - especially once open access took root. A look at publication trends between 2013 and 2023 reveals differences tied to accessibility. Instead of relying on paywalls, many journals now share work freely, possibly influencing who reads and references it. Data pulled from Scopus, alongside Web of Science and DOAJ entries, feeds into this picture. 4782 papers appear in the analysis, scattered across fields like psychology, politics, teaching, money matters, and society studies. Each comes from one of 120 fully open outlets. When tracking attention through citations over half a decade, a pattern emerges: openly shared articles gain nearly half again as many mentions compared to those locked behind subscriptions. Despite fluctuations elsewhere, gold open access journals led in citation metrics, with hybrid and then green models trailing behind. From 2018 onward, elite OA publications saw steady climbs in both JIF and SJR indicators. Rather than mere visibility, wider availability of articles tied closely to broader international readership - this link strengthened over time. What stands out is how freely accessible papers gained more citations, reshaping who participates in social science conversations. For researchers, universities, funders, and government agencies alike, reaching larger audiences now depends less on prestige and more on open access.

Keywords: open access publishing, citation analysis, bibliometrics, social sciences, research impact, journal impact factor, scholarly communication, gold open access

1. Introduction

The advent of the internet and digital publishing technologies has catalyzed a fundamental shift in academic publishing, giving rise to the Open Access (OA) movement. Open access, broadly defined as the free, unrestricted online availability of peer-reviewed scholarly research, has grown exponentially since the Budapest Open Access Initiative of 2002 formally codified the principle that research findings should be accessible without financial or institutional barriers (Chan et al., 2002). This movement has reshaped how knowledge is produced, disseminated, and consumed across academic disciplines, though its impact has been uneven across fields.

In the natural sciences and medicine, the OA advantage—the empirically observed tendency for OA articles to accumulate more citations than their subscription-based equivalents—has been widely documented and debated (Harnad & Brody, 2004; Hitchcock, 2013). Social science disciplines, however, have received comparatively less systematic bibliometric attention, despite the fact that research in sociology, economics, political science, and psychology profoundly shapes public policy and societal development. This gap in the literature is particularly noteworthy given that social science scholarship often addresses issues of pressing public interest, where broad accessibility may carry significant practical implications beyond academic citation metrics.

The present study addresses this gap by conducting a systematic bibliometric analysis of citation patterns and research impact among open access journals specifically in the social sciences. By examining data from multiple bibliometric databases over a ten-year period, this research seeks to provide rigorous empirical evidence regarding whether OA publishing confers measurable citation advantages in the social sciences, and to identify which OA models, disciplines, and article characteristics are associated with higher research visibility and impact. The findings are intended to guide evidence-based decision-making by researchers, academic institutions, and funding agencies grappling with increasingly urgent questions about publication strategy in a rapidly evolving scholarly communication environment.

2. Literature Review

2.1 The Open Access Movement and Its Evolution

The theoretical foundations of the OA movement rest on principles of academic freedom, research efficiency, and social equity. Lawrence (2001) was among the first to provide empirical evidence of the citation advantage associated with online availability, finding that computer science articles freely accessible online received substantially more citations than those available only in print. This early work stimulated a wave of bibliometric research across disciplines, yielding mixed but generally supportive findings for the OA citation advantage hypothesis.

Subsequent scholarship distinguished between multiple OA models: gold OA, where articles are published in fully open access journals; green OA, involving self-archiving of manuscripts in institutional or subject repositories; hybrid OA, in which authors pay article processing charges (APCs) to make individual articles OA within subscription journals; and diamond OA, where neither authors nor readers pay fees and journals are funded through institutional or governmental support (Suber, 2012). Each model has distinct implications for citation patterns, journal prestige, and scholarly visibility.

2.2 Bibliometric Evidence on Citation Advantage

A meta-analysis by Tennant et al. (2016) synthesized findings from 70 studies and confirmed a significant OA citation advantage across disciplines, though the magnitude varied considerably. In the social sciences specifically,

research has been more ambiguous. Antelman (2004) found that OA articles in philosophy, political science, electrical engineering, and mathematics received higher citation rates, but the social sciences demonstrated more heterogeneous results. Gargouri et al. (2010) argued that much of the apparent OA advantage could be attributed to self-selection bias, whereby higher-quality papers are more likely to be made freely available, rather than to the effect of accessibility per se.

More recent work by Piwowar et al. (2018), analyzing a large-scale dataset of 1.8 million articles across disciplines, found a robust OA citation advantage of 18% for gold OA and 11% for green OA relative to closed access articles, even after controlling for article age, journal prestige, and disciplinary norms. Social science disciplines in this study exhibited moderately positive OA effects, though the authors noted that citation cultures in social sciences—including longer citation half-lives and greater reliance on book-length scholarship—may attenuate the measured impact of OA journal articles specifically.

2.3 Social Sciences and Bibliometric Research

Bibliometric research in the social sciences faces unique methodological challenges. Unlike STEM disciplines, social science scholarship frequently encompasses books, book chapters, and policy reports that fall outside journal indexing systems (Hicks, 2004). Citation practices differ substantially across social science sub-disciplines: economics mirrors natural science citation norms fairly closely, while sociology, political science, and education exhibit longer citation delays and greater reliance on monographs. These disciplinary differences complicate cross-disciplinary comparisons and suggest that domain-specific bibliometric analysis is essential (Ossenblok et al., 2012).

Despite these challenges, the growth of OA publishing in the social sciences has been remarkable. According to the Directory of Open Access Journals, the number of social science OA journals increased from approximately 800 in 2010 to over 3,200 by 2023. This proliferation has prompted growing interest in the quality, impact, and sustainability of OA publishing models within the social science community (Larivière & Sugimoto, 2018).

3. Methodology

3.1 Data Sources and Search Strategy

This study employed a multi-database bibliometric approach, drawing data from three primary sources: Scopus (Elsevier), Web of Science Core Collection (Clarivate Analytics), and the Directory of Open Access Journals (DOAJ). The study period covered publications from January 2013 to December 2023. Social science journals were identified using the Scopus subject classification system and Web of Science category listings, encompassing the following disciplines: sociology, economics, political science, psychology, education, anthropology, and communication studies.

Inclusion criteria required that journals: (a) be indexed in at least one of the two citation databases; (b) be listed in DOAJ for OA journals, or confirmed as subscription-only through journal publisher websites; (c) have published a

minimum of 20 articles per year throughout the study period; and (d) have complete citation data available for at least five years following publication. A total of 120 OA journals and 95 subscription-based journals meeting these criteria were identified, yielding a final analytical corpus of 4,782 OA articles and 4,215 subscription articles.

3.2 Bibliometric Indicators

The study employed multiple bibliometric indicators to assess research impact. Citation counts were extracted for all articles at one, three, and five years post-publication. Journal-level metrics included the Journal Impact Factor (JIF) as reported by Clarivate Analytics and the SCImago Journal Rank (SJR) indicator from Elsevier's Scopus database. Article-level metrics included the Field-Weighted Citation Impact (FWCI), which normalizes citation counts by discipline, publication year, and document type, providing a fairer basis for cross-disciplinary comparison.

OA status was classified into gold, green, hybrid, and diamond categories using DOAJ metadata, Unpaywall API data, and manual verification for ambiguous cases. Geographic information was coded based on corresponding author institutional affiliations, enabling analysis of citation patterns by region of origin.

3.3 Statistical Analysis

Descriptive statistics were computed for all bibliometric variables. Inferential analyses employed Mann-Whitney U tests for non-parametric comparison of citation distributions between OA and non-OA articles, given that citation distributions are typically right-skewed. Spearman rank correlations assessed relationships between OA status, geographic accessibility, and citation frequency. Multiple regression analysis controlled for confounding variables including article age, journal prestige tier, sub-discipline, and author institutional affiliation type. All analyses were conducted using SPSS version 27 and R version 4.2.1, with statistical significance set at $p < .05$.

4. Results

4.1 Overall Citation Patterns

The analysis revealed a statistically significant OA citation advantage in the social sciences across all citation time windows examined. OA articles received a mean of 12.4 citations within five years of publication compared to 8.4 citations for subscription articles (Mann-Whitney $U = 8{,}247{,}331$, $p < .001$, $r = .21$). This corresponds to a 47.6% citation advantage for OA articles on average, consistent with the a priori hypothesis derived from the existing literature.

Citation advantages were not uniformly distributed across time. At the one-year mark, OA and subscription articles demonstrated broadly comparable citation rates (mean 2.1 vs. 1.9, $p = .08$), suggesting that immediate citation impact is not substantially differentiated by access mode. By the three-year mark, OA articles had accumulated significantly more citations (mean 6.8 vs. 4.9, $p < .001$), and the gap widened further at five years. This temporal pattern suggests that the OA advantage in social sciences may operate through mechanisms of sustained discoverability and long-term accessibility rather than immediate post-publication visibility.

4.2 Citation Impact by OA Model

Disaggregation by OA model revealed meaningful differences in citation impact. Gold OA articles demonstrated the highest mean FWCI at 1.68, indicating that these articles received 68% more citations than the world average for comparable documents. Diamond OA articles followed with a mean FWCI of 1.54, while hybrid OA articles yielded an FWCI of 1.41. Green OA articles, despite their accessibility through repositories, showed a more modest FWCI of 1.23, which may reflect their association with a diverse range of journal quality levels and the additional access friction inherent in repository discovery.

4.3 Journal-Level Impact Metrics

Analysis of journal-level metrics revealed that the top quartile of OA social science journals (n = 30) exhibited mean JIF scores of 4.82 in 2023, representing a 34% increase from their 2018 values (mean JIF = 3.59). For the equivalent tier of subscription journals, mean JIF increased by only 18% over the same period (from 5.11 to 6.02), suggesting that while subscription journals maintain higher absolute impact scores, OA journals are narrowing the gap at an accelerating pace. SJR trends mirrored these patterns, with top-quartile OA journals showing a mean SJR of 1.74 in 2023 compared to 1.21 in 2018.

4.4 Geographic and Institutional Correlates

Regression analysis identified geographic origin as a significant predictor of OA publication rates. Articles authored by researchers in low- and middle-income countries (LMICs) were significantly more likely to appear in OA journals (OR = 2.34, 95% CI [1.98, 2.77]), consistent with the hypothesis that OA publishing serves as an equalizing mechanism for researchers lacking institutional access to subscription content. Interestingly, LMIC-authored OA articles demonstrated citation rates comparable to those of high-income country authors within the OA ecosystem (mean FWCI 1.42 vs. 1.51), a considerably smaller differential than observed in the subscription-based literature (mean FWCI 0.89 vs. 1.38), suggesting that OA publishing partially levels the global playing field in social science scholarship.

5. Discussion

One key result from this bibliometric analysis confirms a clear open access citation benefit in the social sciences, building on prior work with fresh data and sharper methods. At 47.6%, the boost seen in citations for openly available papers matches earlier cross-field results - such as those reported by Piwowar and colleagues in 2018 - and even goes somewhat further. What stands out is how well this effect fits within social science fields, possibly due to their focus on issues that resonate widely outside universities. These areas often engage real-world audiences, including professionals and government figures, which could help spread research more quickly. Such reach might explain why making work freely accessible here brings stronger returns than in some other domains.

Later on, citations grow more clearly in open access work - not early, but noticeable after three to five years. Because of this delay, short assessment periods miss much of its influence. What gets counted often depends on timing built into journal rankings. These fixed spans, like two- or five-year frames, risk downplaying slower-building scholarly reach common across social science research. Knowledge in these areas tends to stay relevant far longer compared to fast-moving scientific disciplines. Evidence shows such extended visibility matters especially outside STEM environments.

That gold and diamond open access models outperform green OA in citations aligns with evidence favoring journal reputation over basic availability. Rather than just being accessible online, what often matters more are clear article details and where it appears. Green versions sometimes suffer because records lack consistency, hurting how easily they're found. Inconsistent data entry across platforms can reduce visibility compared to publisher-hosted papers. Even when policies support depositing work in repositories, weak infrastructure might limit reach. Better standards for tagging and indexing archived studies could close the gap. Supportive rules from universities or funding bodies work better if paired with tools ensuring reliable record upkeep. Without attention to backend systems, gains in equity may come at the cost of influence. Where research lives affect who sees it - platform stability plays a quiet but vital role. Improving behind-the-scenes elements strengthens outcomes without changing policy goals.

Surprisingly, location-based fairness shows notable patterns. While differences in citation impact remain wide under traditional paywalled models, open access reveals a narrowing divide - scores from lower-middle-income nations now closely approach those from wealthier countries. Such data hints at how freely available publishing might level the playing field across borders, especially where social inquiry is concerned. Funders and multinational programs aiming to broaden scholarly reach may find these trends informative. Evidence like these shifts assumptions about who gets heard in global discourse.

One limitation stands out clearly: using only Scopus and Web of Science could skew results. These platforms tend to favor journals published in wealthy nations - especially those written in English. Although ten years offers solid coverage, fast-moving changes might still slip through the cracks. Take diamond open access - it has gained traction recently, yet its full effect remains partly hidden here. So do new deals link big universities directly to publishers. To see a fuller picture later on, scholars might look beyond standard sources. Including non-English publications along with reports outside peer-reviewed channels would help balance things. A broader approach like that could better reflect how openness plays out across diverse social science communities.

6. Conclusion

This bibliometric study provides One study shows gold and diamond open access tied to far more citations across social sciences. Though often overlooked, longer-term gains appear larger than standard metrics capture. Not limited to citation counts, these models also boost how widely work spreads globally. What stands out is the way availability

shapes influence - especially where resources are scarce. Visibility rises not just in volume but in reach, particularly benefiting regions left behind. Over time, this shifts who gets seen and heard in academic conversation.

One key takeaway stands out for scholars: choosing reputable open access journals often leads to more citations over time. Placing copies in carefully managed archives does much the same. Seen differently, institutional leaders now have stronger reasons to back rules that encourage such sharing. Support grows too for funding platforms that host papers, organize data, or help cover fees. When studies influence real-world decisions on urgent issues, free availability gains weight beyond campus walls. Accessibility shifts from scholarly preference toward societal necessity.

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